IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPEAL BRIEF – 37 C.F.R § 1.192

U.S. Patent Application 10/604,072 entitled:

"Remote Location VOIP Roaming Behind Firewalls"

Real Party in Interest: SBC Knowledge Ventures, L.P.

Related Appeals and Interferences:

None

Status of Claims:

Claims 1-20 are pending.

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee (U.S. Patent 6,958,992), hereafter "Lee".

Claims 1-20 are hereby appealed.

Status of Amendments:

There have been no After-Final Amendments filed since the final rejection of 09/05/2008.

Summary of Claimed Subject Matter:

(NOTE: All citations are made from the original specification, including the figures of the pre-grant publication **US 2004/0264439 A1**.)

Applicants' claim 1 teaches an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, wherein the IP phone located behind a firewall comprises: a DHCP client software, upon an initial power up of the IP phone, communicating with the firewall to receive an IP address (**see at least FIG. 1, element 110, and paragraphs [0020], [0021]**), and an IP agent software, upon receiving the IP address from the firewall, registering with a DNS switch based upon at least the following parameters: the

assigned phone number, the received IP address, a public IP address associated with the firewall, and a MAC address associated with the IP phone, wherein, upon successful registration with the DNS switch, the IP agent software receives a port number and address over which future communications are to be performed (**see at least FIG. 1, element 112, and paragraphs [0020], [0021]**).

In addition to the features of claim 1, Applicants' claim 2 teaches that the port number accepts communication requests via any of the following protocols: Session Initiation Protocol (SIP) or Media Gateway Control Protocol (MGCP) (**see at least paragraph [0041]**).

In addition to the features of claim 1, Applicants' claim 3 teaches that the IP phone is additionally associated with a backup phone number whereby communications are forwarded to the backup phone number upon any disruption in communication with said IP phone (**see at least paragraphs [0034],[0035]**).

In addition to the features of claim 1, Applicants' claim 4 teaches that the firewall runs an HTTP service and said public IP address associated with said firewall is obtained via a HTTP GET query (**see at least paragraph [0024]**).

In addition to the features of claim 1, Applicants' claim 5 teaches that the communications between said IP agent and said DNS switch is via the TCP/IP protocol (**see at least paragraph [0022]**).

In addition to the features of claim 1, Applicants' claim 6 teaches that the IP agent monitors and detects changes to the public IP address associated with the firewall; and upon detecting such a change, the IP agent identifies a new public IP address of the firewall and reregisters with the DNS switch based upon at least the following parameters: the assigned phone number, the received IP address, the identified new public IP address associated with said firewall, and the MAC address associated with said IP phone (**see at least paragraph [0033] and FIG. 2, element 236**).

In addition to the features of claim 6, Applicants' claim 7 teaches that the IP agent monitors changes to the public IP address associated with the firewall at pre-set time intervals (**see at least paragraph [0032]**).

In addition to the features of claim 1, Applicants' claim 8 teaches that the DNS switch is behind an Internet Service Provider (ISP) gateway (**see at least paragraphs [0015], [0022]**).

Applicants' claim 9 teaches a method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, wherein the method as implemented in said DNS switch comprises the steps of: receiving a request for an unique IP address from a first IP phone located behind the first firewall and a second IP phone located behind the second firewall (**see at least FIG. 2, element 212, paragraphs [0022], [0023], FIG. 3 – "Power Up", and paragraph [0038]**);

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transmitting a unique IP address to the first and second IP phones (**see at least FIG. 2, element 220, paragraphs [0022], [0023], FIG. 3 – "Power Up", and paragraph [0038]**); receiving a request for registration from the first and second IP phones, each of the requests based upon at least the following parameters: a unique assigned phone number, a unique IP address, a public IP address associated with corresponding firewall, and a unique MAC address (**see at least FIG. 2, element 228, paragraphs [0025]-[0030], FIG. 3 elements 316,318, and paragraph [0038]**), registering the first and second IP phones based upon the received parameters associated with each IP phone, and upon successful registration, transmitting a port number and address to the first and second IP phones over which future communications are to be performed, and wherein a communication link is facilitated at the DNS switch between the first IP phone and second IP phone via the transmitted port number and address (**see at least FIG. 3, "Connect(port 50)", "Connect(port 70)" and paragraph [0038]-[0040]**).

In addition to the features of claim 9, Applicants' <u>claim 10</u> teaches that the port number accepts communication requests via any of the following protocols: Session Initiation Protocol (SIP) or Media Gateway Control Protocol (MGCP) (**see at least paragraph [0041]**).

In addition to the features of claim 9, Applicants' <u>claim 11</u> teaches that each of the IP phones are associated with a backup phone number and the method additionally comprises the step of identifying disruptions in communication with either of the IP phones and forwarding communications addressed to a corresponding backup phone number (**see at least paragraphs [0034],[0035]**).

In addition to the features of claim 9, Applicants' claim 12 teaches that each of the firewalls run an HTTP service and the public IP address associated with each firewall is obtained via a HTTP GET query (see at least paragraph [0024]).

In addition to the features of claim 9, Applicants' claim 13 teaches that each of the IP phones monitor and detect changes to the public IP address associated with their respective firewall, and upon detecting a new public IP address, the method comprises the additional step of reregistering IP phones based upon at least the following parameters: the assigned phone number, the received IP address, the identified new public IP address associated with said firewall, and the MAC address associated with the IP phone (see at least paragraph [0033] and FIG. 2, element 236).

In addition to the features of claim 13, Applicants' claim 14 teaches that changes in the public IP address associated with firewalls are monitored at pre-set time intervals (see at least paragraph [0032] and FIG. 2 – "Repeating Timer").

In addition to the features of claim 9, Applicants' claim 15 teaches that the DNS switch is behind an Internet Service Provider (ISP) gateway (see at least paragraphs [0015], [0022]).

Applicants' claim 16 provides for an article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication

between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, the IP phone located behind a firewall, wherein the medium comprises: computer readable program code communicating with said firewall to receive an IP address **(see at least FIG. 1, element 110, and paragraphs [0020], [0021], [0042]-[0043]**), computer readable program code, upon receiving said IP address from said firewall, registering with a DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, a public IP address associated with said firewall, and a MAC address associated with said IP phone, and computer readable program code, upon successful registration with said DNS switch, receiving a port number and address over which future communications are to be performed **(see at least FIG. 1, element 112, and paragraphs [0020], [0021], [0042]-[0043]**).

In addition to the features of claim 16, Applicants' claim 17 teaches that the medium further comprises computer readable program code forwarding communications to a backup phone number upon identifying any disruptions in communication with said IP phone **(see at least paragraphs [0034], [0035], [0042]-[0043]**).

In addition to the features of claim 16, Applicants' claim 18 teaches that the firewall runs an HTTP service and said public IP address associated with said firewall is obtained via a computer readable program code generated HTTP GET query **(see at least paragraph [0024], [0042]-[0043]**).

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In addition to the features of claim 16, Applicants' <u>claim 19</u> teaches that medium further comprises computer readable program code for monitoring and detecting changes to the public IP address associated with the firewall, and upon detecting such a change, the computer readable program code identifies a new public IP address of the firewall and reregisters with the DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, said identified new public IP address associated with said firewall, said MAC address associated with said IP phone (**see at least paragraph [0033], [0042]-[0043] and FIG. 2, element 236**).

In addition to the features of claim 19, Applicants' <u>claim 20</u> teaches that the medium further comprises a timer for monitoring changes to the public IP address associated with the firewall at pre-set time intervals (**see at least paragraph [0032], [0042]-[0043]**).

Grounds of Rejection to be Reviewed on Appeal:

<u>Claims 1-20 are hereby appealed</u>.

<u>WAS A PROPER REJECTION MADE UNDER 35 U.S. C. §103(A) USING EXISTING</u>

<u>USPTO GUIDELINES</u>?

ARGUMENT:

WAS A PROPER REJECTION MADE UNDER 35 U.S. C. §103(A) USING EXISTING

USPTO GUIDELINES?

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee

(U.S. Patent 6,958,992), hereafter "Lee". To be properly rejected under 35 U.S.C. §103(a), the

cited reference (or references) must teach each and every feature of the claims. Applicants

respectfully assert that Lee fails to teach many of the features of Applicants' pending claims.

Lee discloses a method and apparatus for registering IP phones with an IP phone switch

using access codes or personal identification numbers for authentication and for associating

directory numbers to MAC addresses of IP phones. Lee's solution targets the <u>disadvantages of</u>

<u>manual entry of MAC addresses</u> (including attendant keyboarding errors, difficulty in re-

associating the directory numbers with other MAC addresses when people move within an

enterprise, etc.). For example, the Board of Patent Appeals and Interferences (BPAI) is

respectfully directed to column 1, lines 30-36 of the Lee reference which outlines the problem

with the prior art. <u>Lee solves the manual entry of MAC addresses by registering IP phones with</u>

<u>an IP phone switch using access codes or personal identification numbers for authentication and</u>

<u>for associating directory numbers to MAC addresses of IP phones.</u>

<u>Applicants' invention, by stark contrast, is NOT involved in addressing the manual entry</u>

<u>of MAC addresses but, rather, addresses the problem of the inability of IP phones to smoothly</u>

<u>operate behind security devices, such as firewalls.</u> Specifically, Applicants claim 1 teaches an IP

phone with an assigned phone number capable of communicating over a packet-based communication protocol, said IP phone located behind a firewall, wherein the IP phone comprises: <u>DHCP client software</u>, upon an initial power up of said IP phone, communicating with said firewall to receive an IP address; and <u>IP agent software</u>, upon receiving said IP address from said firewall, <u>registering with a DNS switch based upon *at least the following parameters*</u>: <u>said assigned phone number, said received IP address, a public IP address associated with said firewall, and a MAC address associated with said IP phone</u>. Upon successful registration with said DNS switch, <u>the IP agent software receives a port number and address over which future communications are to be performed</u>.

On page 3 of the Examiner's rejection of 09/05/2008, the examiner states the following:

"Regarding claim 1, Lee teaches … registering based upon at least the following parameters: said assigned phone number (col. 2, line 55), said received IP address (see col. 2, lines 28-32), *or* a MAC address associated with said IP phone (see col. 2, lines 55-57)".

First, Applicants wish to respectfully point out to the BPAI that the above-mentioned feature of claim 1 has been **truncated and erroneously quoted** by the Examiner. Specifically, the portion cited by the Examiner of Applicants' claim 1 states as follows:

"IP agent software, upon receiving said IP address from said firewall, registering with a DNS switch *based upon at least the following parameters*: said assigned phone number, said

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received IP address, *a public IP address associated with said*

firewall, and a MAC address associated with said IP phone"

(emphasis added).

It is respectfully pointed out to the BPAI that the above-reproduced correct citation of claim 1 specifically mentions that <u>the IP agent software in the IP phone registers with the DNS switch based on, among other items, a public IP address associated with the firewall, a feature that is entirely omitted by the Examiner while addressing the feature of Applicants pending claim 1</u>.

Further, Applicants have been trying to clarify that the registration process according to claim 1 <u>requires the registration based upon at least the four parameters</u>. The Examiner citation appears to indicate that he/she is reading this as any of the four as the reproduced citation by the Examiner states "...**<u>or</u>** a MAC address associated with said IP phone (see col. 2, lines 55-57)...", while the language in claim 1 is specific to state "... **_and_** a MAC address associated with said IP phone".

Further, with regards to the rejection of claim 1, Applicants agree with the Examiner's statement that Lee "does not teach specifically that the IP phone (102) is located behind a firewall." However, Applicants respectfully disagree with the Examiner that it would have been obvious to have implemented an IP phone behind a firewall. Nevertheless, the Examiner still has a burden as to show, with evidence, where in Lee or in the knowledge known in the art, was it obvious to have sent the "public address associated with the firewall" to a "DNS switch". The Examiner has failed to specifically address what feature of Lee either teaches or renders obvious

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such a feature. A clarification was specifically requested regarding this feature in Applicants'

previous response of 07/06/2008, as Applicants did not believe that the Lee reference taught such

a feature. In response to this request, the Examiner on page 6 of the "Response to Argument"

section of the Office Action of 09/05/2008, the Examiner notes the following:

> "...the claim language does not recite specifically 'sending
>
> public address associated with the firewall to a DNS switch' or the
>
> 'public address associated with the firewall is sent to a DNS
>
> switch'"

Applicants respectfully disagree with this assertion by the Examiner. Specifically, as was

pointed out above, claim 1 specifically states that the feature of an "IP agent software, upon

receiving said IP address from said firewall, **registering with a DNS switch based upon at least**

the following parameters: .... **a public IP address associated with said firewall**....".

Applicants submit to the BPAI that the claim language of Applicants' pending claim 1

specifically recites registering with a DNS switch based upon a public IP address of the firewall.

Therefore, the claim does state sending the IP address of the firewall.

Further, according to claim 1, the DNS switch (not the phone switch) of Applicants'

invention receives the assigned phone number of the IP phone, a DHCP IP address of the IP

phone, a public IP address associated with the firewall, **and** a MAC address associated with said

IP phone. Based on **all of these parameters**, the DNS switch sends a port number and address

over which future communications are performed using the IP phone. Such a teaching is neither taught nor suggested in Lee.

Hence, at least for the reasons set forth above, Applicants respectfully assert that the teachings of Lee cannot render obvious Applicants' claim 1. Therefore, Applicants respectfully request the Examiner to withdraw the 35 U.S.C. §103(a) rejection with regards to claim 1, and further request allowance thereof.

Applicants claim 9 teaches a method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a *DNS switch*, said method *as implemented in said DNS switch* comprising the steps of: (a) receiving a request for an unique IP address from a first IP phone located behind said first firewall and a second IP phone located behind said second firewall; (b) transmitting a unique IP address to said first and second IP phones; (c) receiving a request for registration from said first and second IP phones, each of said requests based upon at least the following parameters: a unique assigned phone number, a unique IP address, a public IP address associated with corresponding firewall, and a unique MAC address, (d) registering said first and second IP phones based upon said received parameters associated with each IP phone, and upon successful registration, transmitting a port number and address to said first and second IP phones over which future communications are to be performed, and wherein a communication link is facilitated at said DNS switch between said first IP phone and second IP phone via said transmitted port number and address.

Further, Applicants claim 16 teaches an article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, wherein the IP phone is located behind a firewall and the medium comprises: (a) computer readable program code communicating with said firewall to receive an IP address, (b) computer readable program code, upon receiving said IP address from said firewall, <u>registering with a DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, a public IP address associated with said firewall, and a MAC address associated with said IP phone</u>, and (c) computer readable program code, <u>upon successful registration with said DNS switch, receiving a port number and address over which future communications are to be performed.</u>

The Examiner has stated on page 4 of the Final Office Action of 09/05/2008 that the rejection with respect to independent claims 9 and 16 are based on the same grounds as that of claim 1. Applicants, therefore, respectfully request the BPAI to consider that the above-presented arguments with regards to independent claim 1 to substantially apply to independent claims 9 and 16.

Hence, at least for the reasons set forth above, Applicants respectfully assert that the teachings of Lee cannot render obvious Applicants' independent claims 1, 9 and 16. Therefore,

Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to independent claims 1, 9, and 16.

With regards to dependent claims 2 and 10, the Examiner in the Final Office Action of 09/05/2008, states that it would have been obvious to have implemented any specific protocol, such as the Session Initiation Protocol (SIP) or Media Gateway Control Protocol (MGCP). Applicants respectfully disagree with the Examiner's assertion as the art of record fails to show the feature of a port number being sent based upon a registration that involves the above-described 4 parameters with respect to claims 1 and 9. Hence, at least for the reasons set forth above, Applicants respectfully assert that the teachings of Lee cannot render obvious Applicants' dependent claims 2 and 10. Therefore, Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claims 2 and 10.

With regards to dependent claims 3, 11, and 17, the Examiner states that the feature of the IP phone being additionally associated with a <u>backup phone number whereby communications are forwarded to the backup phone number upon any disruptions in communication with said IP phone</u>. For support, the Examiner cites column 6, lines 21-26 of Lee as teaching such a feature. Column 6, lines 21-26 merely teaches having a different PIN for different IP phones, and further teaches that there may be "<u>a number of different directory numbers associated with one phone</u>". Applicants assert that Lee merely teaches more than one number associated with one phone. Just a mere mention of a plurality of numbers associated with a phone is NOT the same as having a backup phone number, wherein communications are

forwarded to a backup phone number when there are disruptions in communication. In fact, the Examiner's citations make no mention of disruptions or forwarding to backup numbers during such disruptions. Hence, at least for the reasons set forth above, Applicants respectfully assert that the teachings of Lee cannot render obvious Applicants' dependent claims 3, 11, and 17. Therefore, Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claims 3, 11, and 17.

With regards to dependent claims 4, 12, and 18, the Examiner on page 4 of the Final Office Action of 09/05/2008, makes no mention of where in Lee there is a teaching for the feature of the firewall running an HTTP service, with the public IP address associated with the firewall being obtained via a HTTP GET query. The Examiner merely states that these claims are rejected for the same reasons as the independent claims, when the dependent claims clearly add a level detail that is not present in the independent claims. Hence, at least for the reasons set forth above, Applicants respectfully assert that the teachings of Lee cannot render obvious Applicants' dependent claims 4, 12, and 18. Therefore, Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claims 4, 12, and 18.

With regards to dependent claim 5, the Examiner states that the mere use of the Internet in Figures 1, 7, and 8A of Lee teaches the feature of said communications between said IP agent and said DNS switch is via the TCP/IP protocol. However, the communication of claim 5 is specific to at least the registering of the above-mentioned 4 parameters of claim 1, wherein such registration is done over the TCP/IP protocol. Such a teaching is absent in Lee. Therefore,

Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claim 5.

With respect to dependent claims 6, 13, and 19, the Examiner states that column 2, lines 41-64 and column 3, lines 13-35 teach the feature of monitoring and detecting changes to the public IP address associated with the firewall and re-registering with the DNS switch based upon at least the new public IP address associated with said firewall, among other parameters. Applicants respectfully assert that the Examiner citations merely outlines the <u>initialization and registration of the IP phone</u> and <u>makes no mention of identifying changes to the public address of a firewall and makes no mention of a re-registration process when such a change is detected</u>. Therefore, Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claims 6, 13, and 19. Further, since no such monitoring of a firewall's public address is outlined in Lee, Applicants further assert that it would be improper to argue that such <u>monitoring is done at pre-set time intervals</u> as per claims 7, 14, and 20. Therefore, Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claims 7, 14, and 20.

With regards to dependent claims 8 and 15, the Examiner cites Figures 1, 7, 8A, without offering any specifics, as teaching the feature of the DNS switch being behind an Internet Service Provider (ISP) gateway. However, Lee in each of those Figures fails to teach for a DNS switch that, during registration, receives the above-mentioned 4 parameters of claim 1, and upon successful registration provides a port number and an address over which communication should

be conducted. Therefore, Applicants contend that an improper 35 U.S.C. §103(a) rejection was issued with regards to dependent claims 8 and 15.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicant's presently claimed invention, nor render them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

As this Appeal Brief has been timely filed within the set period of response, no fee for extension of time is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided, including extension of time, to Deposit Account No. 50-4098.

Respectfully submitted by

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Claims Appendix:

1. **(Previously Presented)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, said IP phone located behind a firewall, said IP phone comprising:

a. DHCP client software, upon an initial power up of said IP phone, communicating with said firewall to receive an IP address;

b. IP agent software, upon receiving said IP address from said firewall, registering with a DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, a public IP address associated with said firewall, and a MAC address associated with said IP phone; and

wherein, upon successful registration with said DNS switch, said IP agent software receives a port number and address over which future communications are to be performed.

2. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 1, wherein said port number accepts communication requests via any of the following protocols: Session Initiation Protocol (SIP) or Media Gateway Control Protocol (MGCP).

3. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 1, wherein said IP phone is

additionally associated with a backup phone number whereby communications are forwarded to said backup phone number upon any disruptions in communication with said IP phone.

4. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 1, wherein said firewall runs an HTTP service and said public IP address associated with said firewall is obtained via a HTTP GET query.

5. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 1, wherein said communications between said IP agent and said DNS switch is via the TCP/IP protocol.

6. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 1, wherein said IP agent monitors and detects changes to said public IP address associated with said firewall; and upon detecting such a change, said IP agent identifies a new public IP address of said firewall and said reregisters with said DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, said identified new public IP address associated with said firewall, said MAC address associated with said IP phone.

7. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 6, wherein said IP agent monitors changes to said public IP address associated with said firewall at pre-set time intervals.

8. **(Original)** An IP phone with an assigned phone number capable of communicating over a packet-based communication protocol, as per claim 1, wherein said DNS switch is behind an Internet Service Provider (ISP) gateway.

9. **(Previously Presented)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, said method as implemented in said DNS switch comprising the steps of:

a. receiving a request for an unique IP address from a first IP phone located behind said first firewall and a second IP phone located behind said second firewall;

b. transmitting a unique IP address for to said first and second IP phones;

c. receiving a request for registration from said first and second IP phones, each of said requests based upon at least the following parameters: a unique assigned phone number, a unique IP address, a public IP address associated with corresponding firewall, and a unique MAC address,

d. registering said first and second IP phones based upon said received parameters associated with each IP phone, and upon successful registration, transmitting a port number and

address to said first and second IP phones over which future communications are to be performed, and

wherein a communication link is facilitated at said DNS switch between said first IP phone and second IP phone via said transmitted port number and address.

10. **(Original)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, as per claim 9, wherein said port number accepts communication requests via any of the following protocols: Session Initiation Protocol (SIP) or Media Gateway Control Protocol (MGCP).

11. **(Original)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, as per claim 9, wherein each of said IP phones are associated with a backup phone number and said method additionally comprises the step of identifying disruptions in communication with either of said IP phones and forwarding communications addressed to a corresponding backup phone number.

12. **(Original)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a

DNS switch, as per claim 9, wherein each of said firewalls run an HTTP service and said public IP address associated with each firewall is obtained via a HTTP GET query.

13. **(Original)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, as per claim 9, wherein each of said IP phones monitor and detect changes to said public IP address associated with their respective firewall, and upon detecting a new public IP address, said method comprises the additional step of reregistering IP phones based upon at least the following parameters: said assigned phone number, said received IP address, said identified new public IP address associated with said firewall, said MAC address associated with said IP phone.

14. **(Original)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, as per claim 13, wherein changes in said public IP address associated with firewalls are monitored at pre-set time intervals.

15. **(Original)** A method for facilitating a communication link between one or more IP phones located behind a first firewall and one or more IP phones behind a second firewall via a DNS switch, as per claim 9, wherein said DNS switch is behind an Internet Service Provider (ISP) gateway.

16. **(Previously Presented)** An article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, said IP phone located behind a firewall, said medium comprising:

a. computer readable program code communicating with said firewall to receive an IP address,

b. computer readable program code, upon receiving said IP address from said firewall, registering with a DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, a public IP address associated with said firewall, and a MAC address associated with said IP phone, and

c. computer readable program code, upon successful registration with said DNS switch, receiving a port number and address over which future communications are to be performed.

17. **(Original)** An article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, as per claim 16, wherein said medium further comprises computer

readable program code forwarding communications to a backup phone number upon identifying any disruptions in communication with said IP phone.

18. **(Original)** An article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, as per claim 16, wherein said firewall runs an HTTP service and said public IP address associated with said firewall is obtained via a computer readable program code generated HTTP GET query.

19. **(Original)** An article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, as per claim 16, wherein said medium further comprises computer readable program code for monitoring and detecting changes to said public IP address associated with said firewall, and upon detecting such a change, said computer readable program code identifying a new public IP address of said firewall and said reregistering with said DNS switch based upon at least the following parameters: said assigned phone number, said received IP address, said identified new public IP address associated with said firewall, said MAC address associated with said IP phone.

20. **(Original)** An article of manufacture comprising a computer user medium having computer readable code embodied therein which facilitates communication between an IP phone with an assigned phone number capable of communicating over a packet-based communication protocol and a DNS switch, as per claim 19, wherein said medium further comprises a timer for monitoring changes to said public IP address associated with said firewall at pre-set time intervals.

Evidence Appendix

None

Related Proceedings Appendix

None